

**Revision:
Patent Application No. 10/605,040**

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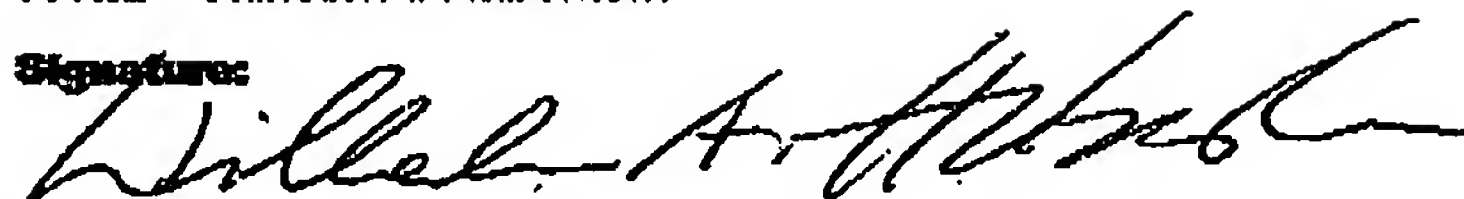
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Signature:



Date: Tuesday, May 31, 2005

Re: Patent Application No. 10/605,040

What I claim is:

1. (previously presented): A posterior part cleansing apparatus consisting of the following components:
 - a. A piping connection from a cold water source to an encapsulating housing.
 - b. An electrical power source connected to said encapsulating housing.
 - c. Said encapsulating housing containing the following components:
 - i. An internal pressurized heating chamber assembly enclosed by an external encapsulating housing;
 - ii. Said internal pressurized heating chamber assembly consisting of containing the following components:
 1. A water input connection,
 2. A input water pressure regulator,
 3. A cleaning fluid output connection,
 4. A cleaning fluid heater, and

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5. A power source that provides power to said heater;
- iii. A means to control the temperature of said heater;
- iv. A cleaning fluid valve to start and stop the cleaning fluid flow;
- v. A means to provide power to said cleaning fluid valve;
- vi. A cleaning nozzle mounted within the confines of any conventional toilet;
- vii. A means to pipe the cleaning fluid into said cleaning nozzle;
- viii. Said cleaning nozzle creates a defused stream of cleaning fluid to a specific projected cleaning space located within the confines of the toilet bowl where,
 1. Said projected cleaning space top area is parallel to the area projected by the upper rim of the toilet bowl,
 2. Said projected cleaning space top area is centered in the rear half of the toilet bowl along the longitudinal center line and segmented by the latitudinal center line of the toilet bowl,
 3. Said projected cleaning space top area is planar in any geometric shape fitting within the confines of an oval area, centered in the rear half along the longitudinal axis of any conventional toilet bowl, where said oval area has a maximum width of 150 millimeters and a maximum length of 200 millimeters, and said oval area is bound in the rear end of said toilet bowl by the inner rim of said toilet bowl,
 4. Said projected cleaning space has a height protruding into the toilet bowl of up to 100 millimeters.

2. **(original):** An apparatus specified in Claim 1, where the cleaning nozzle creates a plurality of streams of cleaning fluid toward the projected cleaning space.
3. **(original):** An apparatus specified in Claim 1, where the cleaning nozzle creates a single stream of cleaning fluid toward the projected cleaning space.
4. **(previously presented):** An apparatus specified in Claim~~[[s]]~~ 2 or 3 1, where the internal pressurized heating chamber has a volume ranging from 200 to 5,000 cubic centimeters.
5. **(previously presented):** An apparatus specified in Claim 4, where
 - a. said cleaning nozzle is mounted along the longitudinal axis at the back end of any conventional toilet bowl with a vertical tolerance from the center line of plus or minus 100 millimeters, and
 - b. said cleaning nozzle is positioned below the upper edge of the rim of said toilet bowl within the toilet bowl in a horizontal tolerance range from 0 to 150 millimeters and within 0 to 100 millimeters of the inner wall of said toilet bowl.
6. **(previously presented):** An apparatus specified in Claim 4, where
 - a. said cleaning nozzle is mounted along the longitudinal axis at the back end of any conventional toilet bowl with a vertical tolerance from the center line of plus or minus 100 millimeters and
 - b. said cleaning nozzle is positioned below the upper edge of the rim of said toilet bowl within the toilet bowl in a horizontal tolerance range from 0 to 150 millimeters, and within 0 to 200 millimeters of the inner wall of said toilet bowl.
7. **(previously presented):** An apparatus specified in Claim~~[[s]]~~ 4, 5 or 6 1, where a pressure sensitive switch is located under the lid of any conventional toilet bowl.
8. **(previously presented):** An apparatus specified in Claim 7, where the cleaning nozzle has a sanitary self-cleaning cycle after every

use wherein a disinfectant and/or deodorizer is deposited onto the exposed nozzle surfaces.

9. **(previously presented):** An apparatus specified in Claim 8, where the cleaning nozzle is user specific.
10. **(previously presented):** An apparatus specified in Claim 9, where the cleaning nozzle is replaceable and contains different orifice sizes and orifice shapes.
11. **(original):** An apparatus specified in Claim 10, where the cleaning nozzle is color coded.
12. **(previously presented):** An apparatus specified in Claim 11, where the cleaning nozzle connection is indexed and a push-in type.
13. **(currently amended):** An apparatus specified in Claim[s] ~~4, 4, 7, 8, 9, 10, 11, or 12~~ 1, where the cleaning nozzle is retractable to a non-use position.
14. **(currently amended):** An apparatus specified in Claim[s] ~~4, 4, 7, 8, 9, 10, 11, or 12~~ 13, where the cleaning nozzle movement into an operating position is cleaning fluid pressure activated.
15. **(currently amended):** An apparatus specified in Claim[s] ~~4, 4, 7, 8, 9, 10, 11, or 12~~ 13, where the cleaning nozzle movement into an operating position is solenoid activated.
16. **(currently amended):** An apparatus specified in Claim[s] ~~4, 4, 7, 8, 9, 10, 11, or 12~~ 13, where the cleaning nozzle movement into an operating position is mechanically activated.
17. **(withdrawn):** A process employing apparatus specified in Claim 1, where the cleaning fluid is provided to the projected cleaning area at a rate ranging from 10 to 50 milliliters per second and at a temperature ranging from 25 to 50 degree centigrade.
18. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 - 16, ~~4, 4, 5, 6, 7, 8, 13, 14, 15 or 16~~, where the cleaning fluid is provided to the projected cleaning space at a rate ranging

from 10 to 50 milliliters per second and at a temperature ranging from 25 to 50 degree centigrade.

19. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the cleaning fluid is provided to the projected cleaning space at a rate ranging from 10 to 50 milliliters per second, at a temperature ranging from 25 to 50 degree centigrade, and at a nozzle exit velocity ranging from 4 to 6 meters per second.
20. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where cleaning fluid is provided to the projected cleaning space at a rate ranging from 10 to 50 milliliters per second at and a temperature ranging from 25 to 50 degree centigrade, and a disinfectant and/or deodorizer is deposited onto the exposed nozzle surfaces for a time period ranging from 0.5 to 10 seconds at the end of every cleaning cycle.
21. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the cleaning fluid is water.
22. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the cleaning fluid is a mixture of soap and water.
23. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the cleaning fluid is a mixture of water, anti-bactericides and soap.
24. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the cleaning fluid is a mixture of water, anti-bactericides, anti-smelling agents and soap.

25. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the duration of the cleaning cycles is automatically time controlled.
26. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the duration of the cleaning cycles to manually time controlled.
27. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the rate of cleaning fluid is user controllable within a range of 10 to 50 milliliters per second.
28. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the temperature of the cleaning fluid is user controllable within a range of 15 to 50 degrees centigrade.
29. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the rate of cleaning fluid is controllable within a range of 10 to 50 milliliters per second, and where the temperature of the cleaning fluid is controllable within a range of 30 to 50 degrees centigrade.
30. **(previously presented):** A process employing a posterior part cleansing apparatus specified in any of the preceding as in one of Claims 1 – 16, 1, 4, 5, 6, 7, 8, 13, 14, 15 or 16, where the rate of cleaning fluid is controllable within a range of 10 to 50 milliliters per second, the temperature of the cleaning fluid is controllable within a range of 30 to 50 degrees centigrade, and a disinfectant and/or deodorizer is deposited onto the exposed nozzle surfaces for a period ranging from 0.5 to 10 seconds at the end of every cleaning cycle.
31. **(withdrawn):** An apparatus consisting of the following components:

- a. A piping connection from a cold water source to an external housing,
- b. Said external housing having a volume ranging from 50 to 500 cubic inches,
- c. Said housing containing the following components:
 - i. A cleaning fluid-level-controlling-valve to maintain the water level within said housing,
 - ii. A cleaning fluid pump operating at a rate ranging from 10 to 50 milliliters per second,
 - iii. A pressure release valve that interrupts the cleaning fluid flow after deactivation of said fluid pump,
 - iv. A heater that increases the fluid to a temperature ranging from 15 degrees Celsius to 50 degree Celsius,
 - v. An electric power source that provides power to both said heater and pump,
- d. A means to control duration of pump activation;
- e. A means to pipe the cleaning fluid to a cleaning nozzle;
- f. A replaceable cleaning nozzle mounted within the confines of any conventional toilet bowl;
- g. Said cleaning nozzle creates a single diffused defusing a stream of cleaning fluid to a specific projected cleaning space located within the confines of the toilet bowl where:
 - i. Said projected cleaning space top area is parallel to the area projected by the upper rim of the toilet bowl,
 - ii. Said projected cleaning space top area is centered in the rear half of the toilet bowl along the longitudinal center line and segmented by the latitudinal center line of the toilet bowl,
 - iii. Said projected cleaning space top area is singular in any geometric shape fitting within the confines of an

oval area, centered in the rear half along the longitudinal axis of any conventional toilet bowl, where said oval area has a maximum width of 150 millimeters and a maximum length of 200 millimeters, and said oval area is bound in the rear end of said toilet bowl by the inner rim of said toilet bowl,

iv. Said projected cleaning space has a height protruding into the toilet bowl of up to 100 millimeters.

32. **(withdrawn):** An apparatus specified in Claim 31, where the cleaning nozzle is replaceable and contains different orifice sizes and orifice shapes.
33. **(withdrawn):** An apparatus specified in Claim 32, where the cleaning nozzle is color coded.
34. **(withdrawn):** An apparatus specified in Claim 33, where the cleaning nozzle connection is indexed and a push-in type.
35. **(withdrawn):** An apparatus specified in Claim 31, where the cleaning nozzle is retractable to a non-use position.
36. **(withdrawn):** An apparatus specified in Claim 31, where the cleaning nozzle movement into an operating position is cleaning fluid pressure activated.
37. **(withdrawn):** An apparatus specified in Claim 31, where the cleaning nozzle movement into an operating position is solenoid activated.
38. **(withdrawn):** An apparatus specified in Claim 31, where the cleaning nozzle movement into an operating position is mechanically activated.
39. **(withdrawn):** An apparatus consisting of the following components:
 - a. A submergible housing;
 - b. Said housing having a plurality of communicating fluid entry openings along its vertical axis;

- c. Said housing containing the following components:
 - i. A cleaning fluid pump,
 - ii. A pressure release valve that interrupts the cleaning fluid flow after deactivation of said fluid pump,
 - iii. A cleaning fluid heater, and
 - iv. A power source that provides power to both said heater and pump;
- d. A means to control duration of pump activation;
- e. A means to pipe the cleaning fluid into cleaning nozzle;
- f. A replaceable cleaning nozzle mounted within the confines of any conventional toilet bowl;
- g. Said cleaning nozzle creates a single defused stream of cleaning fluid to a specific projected cleaning space located within the confines of the toilet bowl where,
 - i. Said projected cleaning space top area is parallel to the area projected by the upper rim of the toilet bowl,
 - ii. Said projected cleaning space top area is centered in the rear half of the toilet bowl along the longitudinal center line and segmented by the latitudinal center line of the toilet bowl,
 - iii. Said projected cleaning space top area is singular in any geometric shape, fitting within the confines of an oval area centered in the rear half along the longitudinal axis of any conventional toilet bowl, where said oval area has a maximum width of 150 millimeters and a maximum length of 200 millimeters, and said oval area is bound in the rear end of said toilet bowl by the inner rim of said toilet bowl,
 - iv. Said projected cleaning space has a height protruding into the toilet bowl of up to 100 millimeters.

40. **(withdrawn):** An apparatus specified in Claim 39, where the cleaning nozzle is replaceable and contains different orifice sizes and orifice shapes.
41. **(withdrawn):** An apparatus specified in Claim 40, where the cleaning nozzle is color coded.
42. **(withdrawn):** An apparatus specified in Claim 41, where the cleaning nozzle connection is indexed and a push-in type.
43. **(withdrawn):** An apparatus specified in Claim 39, where the cleaning nozzle is retractable to a non-use position.
44. **(withdrawn):** An apparatus specified in Claim 39, where the cleaning nozzle movement into an operating position is cleaning fluid pressure activated.
45. **(withdrawn):** An apparatus specified in Claim 39, where the cleaning nozzle movement into an operating position is solenoid activated.
46. **(withdrawn):** An apparatus specified in Claim 39, where the cleaning nozzle movement into an operating position is mechanically activated.
47. **(withdrawn):** An apparatus specified in Claim 39, where said cleaning nozzle is user specific and exchangeable via indexed quick disconnect mount.
48. **(withdrawn):** An apparatus specified in Claim 39, where said cleaning nozzle contains user specific orifices.
49. **(previously presented):** An apparatus specified in any of Claims 1 - ~~16, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 or 16~~, where a bidet function is provided through a second cleaning nozzle assembly.
50. **(withdrawn):** An apparatus specified in Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, or 49, where the components of said apparatus are housed in an encapsulating housing.
51. **(previously presented):** An apparatus specified in any of Claims 1 - ~~16, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19~~,

~~20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, or 49 ((50))~~, where the said encapsulating housing is mountable to any conventional toilet bowl as a replacement of a conventional toilet seat and lid assembly.

52. (previously presented): An apparatus specified in Claim 51, where a post posterior part cleansing air drying function is incorporated within said encapsulating housing.

53. (previously presented): An apparatus specified in Claim 52, where a plenum chamber uniformly distributes heated air to multiple points of use within said encapsulating housing..

54. (previously presented): An apparatus specified in Claim[[s]] 52 or 53, where the air drying function is automatically activated.

55. (previously presented): An apparatus specified in Claim[[s]] 52 or 53, where the air drying function is manually activated.

56. (previously presented): An apparatus specified in Claim[[s]] 53, 54, or 55, where the drying air temperature and volume is user selectable.

57. (withdrawn): An apparatus specified in Claim[[s]] ~~49, 50, 51, 52, 53, 54, 55, or 56~~, employing Processes specified in any of Claims 22, 23 or 24[[,or 30]], where replaceable cartridges are used as source for each component of said process additive.

58. (previously presented): An apparatus specified in Claim[[s]] ~~52, 53, 54, 55, 56, or 57~~, where a replaceable air freshener cartridge is incorporated into the said encapsulating housing.

59. (withdrawn): An apparatus specified in Claim 59, where one of the replaceable cartridges contains cologne.

60. (previously presented): An apparatus specified in any of Claims 1 - 16, 50, 51, 52, 53, 54, 55, 56, 57, 58, or 59, where the encapsulating housing material include anti-bacterial polymer components.

61. (previously presented): An apparatus specified in Claim 60, where a hand sprayer assembly consisting of a connection to a cleaning fluid source, a cleaning fluid hose, a dispensing spray

nozzle, a manually activated on/off valve are attached to said encapsulating housing.

62. **(previously presented):** An apparatus specified in Claim 61, where the hand sprayer is an attachment to said encapsulating housing via quick disconnect.
63. **(previously presented):** An apparatus specified in Claim 61, where the hand sprayer is an integral part of said encapsulating housing.
64. **(previously presented):** An apparatus specified in any of Claims 1 – 16, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62 or 63, where a small portion of the cleaning fluid is diverted to several diffusing cleaning fluid outlets for the purposes of cleaning exposed apparatus surfaces, while operating said posterior part cleansing nozzles.
65. **(previously presented):** An apparatus specified in Claim 64, where said diffusing cleaning fluid outlets are positioned such that the resulting cleaning fluid flow is along the axis of the moveable portion of the posterior part cleansing nozzle assembly.
66. **(previously presented):** An apparatus specified in Claim[[s]] 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, or 65, where a unique apparatus cleaner cartridge is integrated into the encapsulated housing and used in a post use apparatus cleaning cycle.
67. **(previously presented):** An apparatus specified in any of Claims 13, 14, or 16, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 65, or 66, where the moveable portion of the posterior part cleansing nozzle housing is mechanically cleaned during its retraction movement.

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